

subscriber with information need to access the remainder of the database. The information provided by the basic subscriber service, which will typically include at least 50 gigabytes of data, is available to all subscribers without requiring two way communications between the subscribers and the program supplier station. Using a tiered system for scheduling transmission of the 50 gigabytes or so of information included in the basic subscriber service, as well as an intelligent subscriber request anticipation scheme for retrieving information before the subscriber asks for it, the present invention provides subscribers with reasonably quick access to all the contents of the large database while using only a modest amount of bandwidth. Furthermore, by reserving a portion of the system's bandwidth for satisfying requests for access to information not provided with the basic subscriber service, timely access to a virtually unlimited amount of information can be provided, using the same modest transmission bandwidth, to those subscribers willing to pay additional fees for that service.

IN THE CLAIMS:

Amend claims 47-50 as follows:

3/47. [The] An information transmission system [of claim 20,] comprising:

a set of one or more computer memory devices on which is stored an information database;

database editing means, coupled to said one or more computer memory devices, for generating a set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and for embedding said indices in said information database; said database editing means further embedding in said information database cross-referencing indices for cross-referencing related information;

a transmitter, coupled to said one or more computer memory devices, for transmitting a stream of data packets containing selected portions of said information database; and

a multiplicity of subscriber stations for receiving said transmitted stream of data packets, each subscriber station including a data filter that stores filter data corresponding to a subset of said indices, said filter data specifying a set of requested data packets which comprises a subset of said transmitted data packets, and that downloads into a memory storage device those of said received data packets which match said specified set of requested data packets;

said subscriber stations including data processing apparatus that automatically adds, in accordance with predefined criteria, data corresponding to ones of said cross-referencing indices embedded in said downloaded data packets to said filter data so as to specify additional data packets to be downloaded:

whereby said subscriber station automatically downloads data packets containing data related to data contained in requested data packets, thereby anticipating potential additional requests that a user may make and speeding access thereto:

wherein one or more subsets of said subscriber stations are interconnected via a local area network, including a network server that receives said transmitted stream of data packets on behalf of an associated set of subscriber stations, said network server including a data filter that references a specified set of requested data packets, said specified set of requested data packets representing all data packets requested by said associated set of subscriber stations, and that downloads into a memory storage device those of said received data packets which match said specified set of requested data packets;

said network server including data processing apparatus that adds, in accordance with predefined criteria, data packets corresponding to ones of said cross-referencing indices embedded in said downloaded data packets to said set of requested data

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packets so as to specify additional data packets to be downloaded;

 said network server including memory caching means for storing in a memory cache said additional data packets until said memory cache is full, and then overwriting ones of said additional data packets that have not been accessed by any of said associated set of subscriber stations with subsequently received ones of said additional packets;

whereby overhead associated with receiving the stream of data packets and downloading for storage a specified subset thereof is shared by a set of subscribers.

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3248. [The] An information transmission system [of claim 20,] comprising:

a set of one or more computer memory devices on which is stored an information database;

database editing means, coupled to said one or more computer memory devices, for generating a set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and for embedding said indices in said information database; said database editing means further embedding in said information database cross-referencing indices for cross-referencing related information;

a transmitter, coupled to said one or more computer memory devices, for transmitting a stream of data packets containing selected portions of said information database; and

a multiplicity of subscriber stations for receiving said transmitted stream of data packets, each subscriber station including a data filter that stores filter data corresponding to a subset of said indices, said filter data specifying a set of requested data packets which comprises a subset of said transmitted data packets, and that downloads into a memory storage device those of said received data packets which match said specified set of requested data packets;

said subscriber stations including data processing apparatus that automatically adds, in accordance with predefined criteria, data corresponding to ones of said cross-referencing indices embedded in said downloaded data packets to said filter data so as to specify additional data packets to be downloaded;

whereby said subscriber station automatically downloads data packets containing data related to data contained in requested data packets, thereby anticipating potential additional requests that a user may make and speeding access thereto;

wherein one or more subsets of said subscriber stations are interconnected via a local area network, including a network server that receives said transmitted stream of data packets on behalf of an associated set of subscriber stations, said network server including a data filter that references a specified set of requested data packets, said specified set of requested data packets representing all data packets requested by said associated set of subscriber stations, and that downloads into a memory storage device those of said received data packets which match said specified set of requested data packets;

said network server including data processing apparatus that adds, in accordance with predefined criteria, data packets corresponding to ones of said cross-referencing indices embedded in said downloaded data packets to said set of requested data packets so as to specify additional data packets to be downloaded;

said network server including memory caching means for storing in a memory cache said additional data packets until said memory cache is full, and then overwriting ones of said additional data packets with subsequently received ones of said additional packets in accordance with predefined criteria;

whereby overhead associated with receiving the stream of data packets and downloading for storage a specified subset thereof is shared by a set of subscribers.

33 49. [The] An information transmission method [of claim 43,] comprising the steps of:

storing an information database on one or more memory devices;

generating and storing on said memory devices a set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and embedding said indices in said information database; said storing step further including embedding in said information database cross-referencing indices for cross-referencing related information:

transmitting a stream of data packets containing selected portions of said information database;

receiving said transmitted stream of data packets at subscriber stations:

at each subscriber station, storing filter data corresponding to a subset of said indices, said filter data specifying a set of requested data packets which comprises a subset of said transmitted data packets;

at each subscriber station, downloading into a memory storage device those of said received data packets which match said specified set of requested data packets; and

said storing filter data step furthermore including automatically adding, in accordance with predefined criteria, data corresponding to ones of said cross-referencing indices embedded in said downloaded data packets to said filter data so as to specify additional data packets to be downloaded;

whereby said subscriber station automatically downloads data packets containing data related to data contained in requested data packets, thereby anticipating potential additional requests that a user may make and speeding access thereto;

wherein one or more subsets of said subscriber stations are interconnected via a local area network including a network server:

said method including receiving at said network server said transmitted stream of data packets on behalf of an associated set of subscriber stations, storing filter data in said network server referencing a set of requested data packets, said filter data representing data packets requested by said associated set of subscriber stations, and downloading into a memory storage device associated with said network server those of said received data packets which match said specified set of requested data packets:

said network server further adding, in accordance with predefined criteria, data corresponding to ones of said cross-referencing indices embedded in said downloaded data packets to said filter data stored by said network server so as to specify additional data packets to be downloaded:

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said network server storing in memory cache said additional data packets until said memory cache is full, and then overwriting ones of said additional data packets that have not been accessed by any of said associated set of subscriber stations with subsequently received ones of said additional packets;

whereby overhead associated with receiving the stream of data packets and downloading for storage a specified subset thereof is shared by a set of subscribers.

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50. [The] An information transmission method [of claim 43,] comprising the steps of:

storing an information database on one or more memory devices;

generating and storing on said memory devices a set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and embedding said indices in said information database; said storing step further including embedding in said information database cross-referencing indices for cross-referencing related information;

transmitting a stream of data packets containing selected portions of said information database;

receiving said transmitted stream of data packets at subscriber stations;

at each subscriber station, storing filter data corresponding to a subset of said indices, said filter data specifying a set of requested data packets which comprises a subset of said transmitted data packets;

at each subscriber station, downloading into a memory storage device those of said received data packets which match said specified set of requested data packets; and

said storing filter data step furthermore including automatically adding, in accordance with predefined criteria, data corresponding to ones of said cross-referencing indices embedded in said downloaded data packets to said filter data so as to specify additional data packets to be downloaded;

whereby said subscriber station automatically downloads data packets containing data related to data contained in requested data packets, thereby anticipating potential additional requests that a user may make and speeding access thereto;

wherein one or more subsets of said subscriber stations are interconnected via a local area network including a network server;

said method including receiving at said network server said transmitted stream of data packets on behalf of an associated set of subscriber stations, storing filter data in said network server referencing a set of requested data packets, said filter data representing data packets requested by said associated set of subscriber stations, and downloading into a memory storage device associated with said network server those of said received data packets which match said specified set of requested data packets;

said network server further adding, in accordance with predefined criteria, data corresponding to ones of said cross-referencing indices embedded in said downloaded data